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VULNERABILITIES OF SOCIAL STRUCTURE:
STUDIES OF THE SOCIAL DIMENSIONS OF NUCLEAR ATTACK

S. D. Vestermark, Jr.,
Editor

With Papers by:

David M. Heer
Neil J. Smelser
Howard R. Swearer
S. D. Vestermark, Jr.
Sidney G. Winter, Jr.

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By:

Human Sciences Research, Inc.
Westgate Research Park
7710 Old Springhouse Road
McLean, Virginia 22101

Table I-1

REACTIONS TO ATOMIC-BOMBING OF
PEOPLE IN ATOMIC-BOMBED AREAS
(as measured in late 1945)

	Percent:
Fear-terror	47
Fear for own life	16
Admiration-impressed by bombs' physical power, by the scientific power behind the bomb	26
Jealousy-Why couldn't Japan make such a bomb?	3
Anger-bomb is cruel, inhuman, barbarous	17
Hate of U.S. specifically because of atom bomb use	2
No reaction indicated	11

(The total percentage equals more than 100, because many respondents gave more than one answer.)

Source: United States Strategic Bombing Survey (Morale Division), The Effects of Strategic Bombing on Japanese Morale (Washington: U.S. Government Printing Office, 1947), Table 83, p. 92.

Table I-2

RETROSPECTIVE ASSESSMENTS OF CONFIDENCE IN VICTORY AND UNWILLINGNESS TO CONTINUE WAR: COMPARISON OF RESPONSES IN ATOMIC-BOMBED AREAS AND REST OF JAPAN
(as measured in late 1945)

	Percent in:	
	Hiroshima and Nagasaki areas	Rest of Japan
Percent who said they never had doubts of victory	19	11
Percent who said they were never certain that Japan could not win	27	26
Percent who said they were never personally unwilling to continue the war	39	28

Source: United States Strategic Bombing Survey (Morale Division), The Effects of Strategic Bombing on Japanese Morale (Washington: U. S. Government Printing Office, 1947), Table 84, p. 95.

Table I-3

RELATIVE MORALE OF HIROSHIMA AND NAGASAKI AND FOUR GROUPS OF JAPANESE CITIES ARRANGED IN ORDER OF BOMB TONNAGE DROPPED AND PERCENT OF DESTRUCTION [1]
(as measured in late 1945)

	Percent with:	
	Relatively low morale	Relatively high morale
Heavily bombed cities, exclusive of Tokyo[2]	56	44
Medium bombed cities, high percent of destruction	51	49
Medium bombed cities, low percent of destruction	46	54
Lightly bombed and unbombed cities	47	53
Hiroshima and Nagasaki	45	55

[1] Measure of morale used is the Morale Index (cf. Appendix K, U.S. Strategic Bombing Survey, The Effects of Strategic Bombing on Japanese Morale). The two morale groups in this table each represent roughly half the sample, when arranged in order of scores on the Morale Index.

[2] Morale scores for Tokyo are not presented here because it reacted quite differently (i.e., showed relatively higher morale) from the rest of the heavily bombed cities in Japan. Cf. ibid., Ch. 5, esp. pp. 50-51.

Source: United States Strategic Bombing Survey (Morale Division), The Effects of Strategic Bombing on Japanese Morale (Washington: U.S. Government Printing Office, 1947), Table 85, p. 95.

Figure Ia-1

COMPARISON OF SIX SCHEMES FOR DEFINING POST-ATTACK TIME PHASES

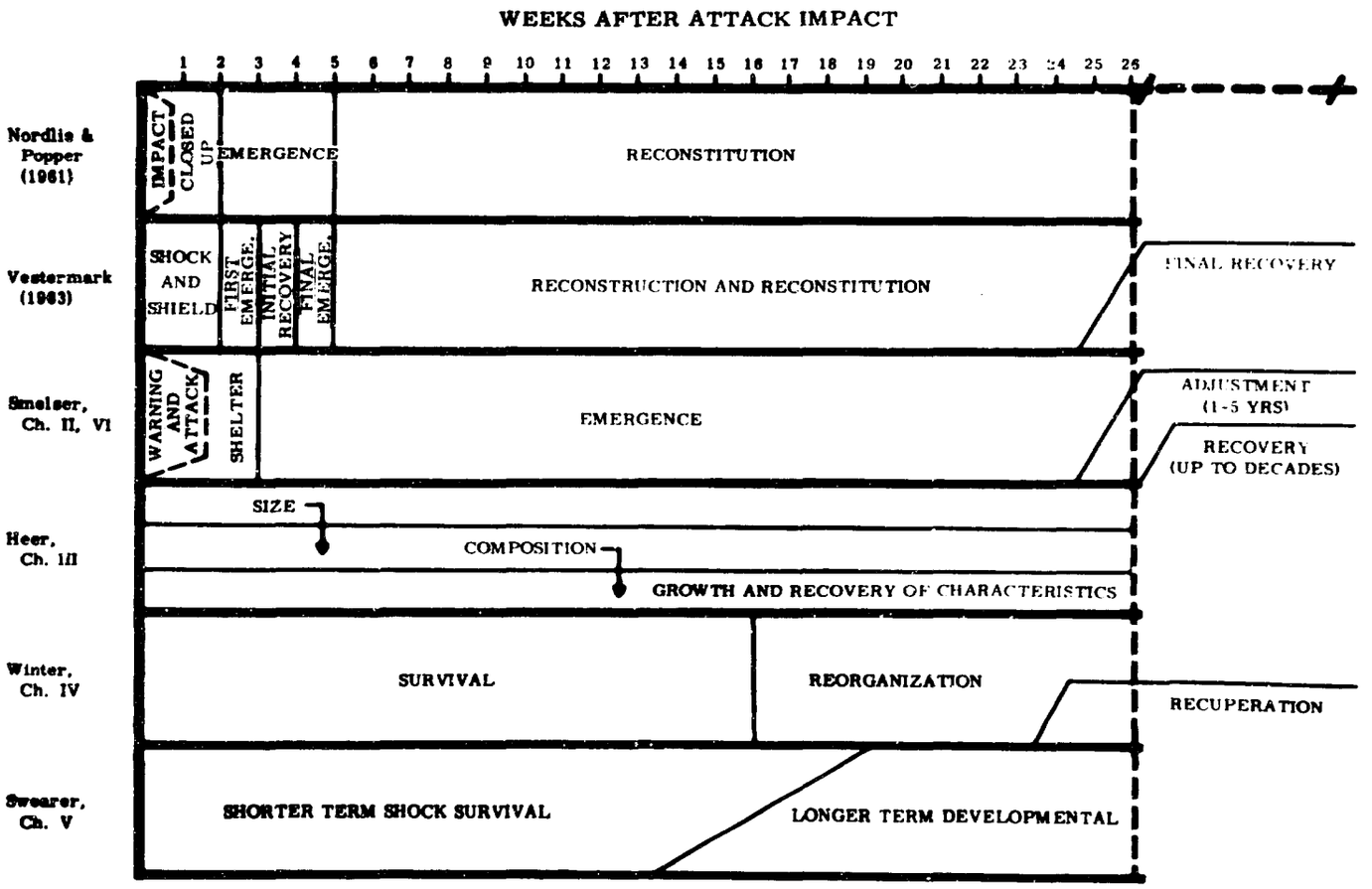


Figure III-2

THE ESTIMATED POPULATIONS OF THE UNITED STATES AND THE SOVIET UNION COMPARED TO THAT OF MAINLAND CHINA, PRIOR TO AND FOLLOWING A HYPOTHETICAL NUCLEAR ATTACK IN LATE 1964-EARLY 1965 CAUSING 100 MILLION FATALITIES IN BOTH THE UNITED STATES AND THE SOVIET UNION

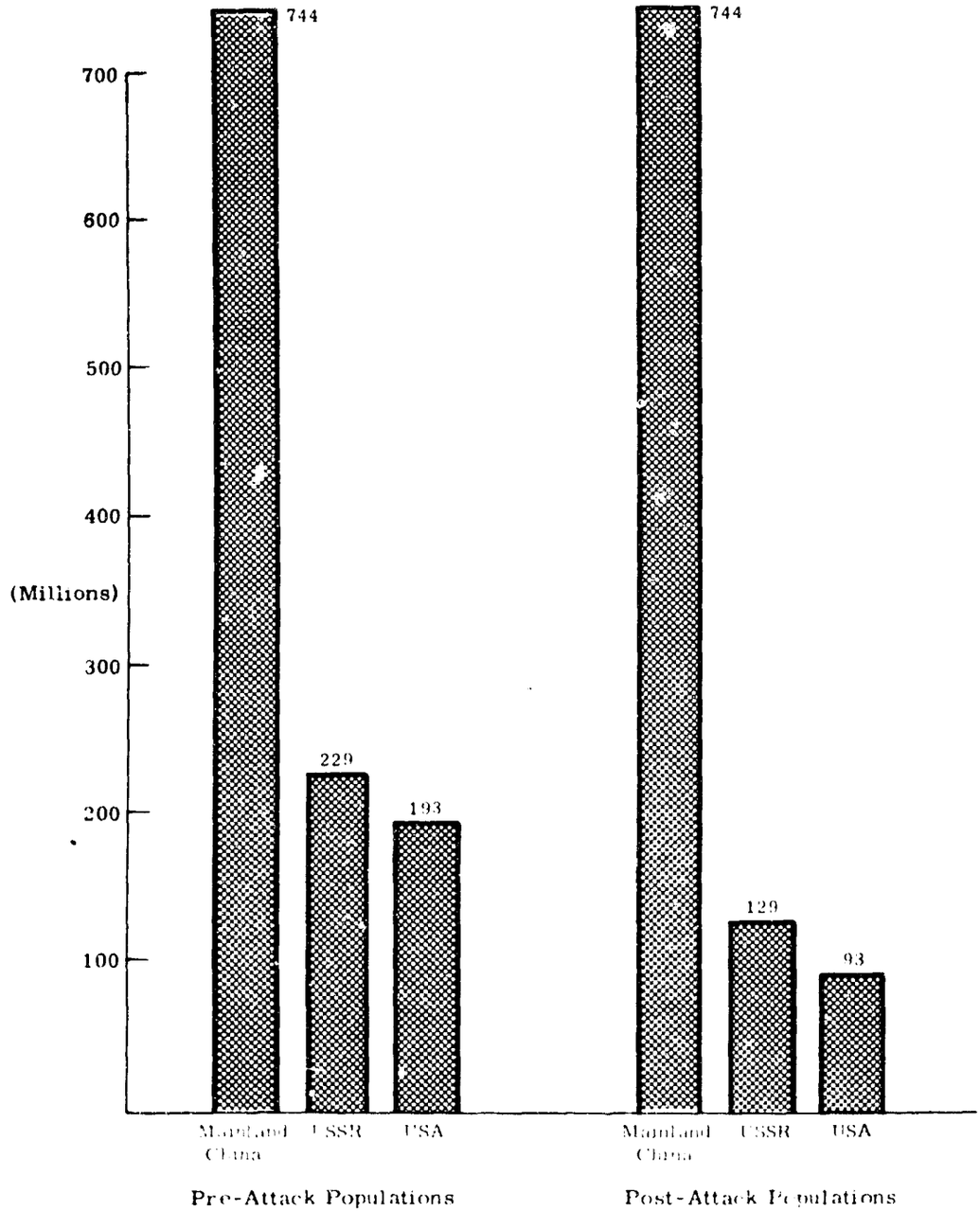
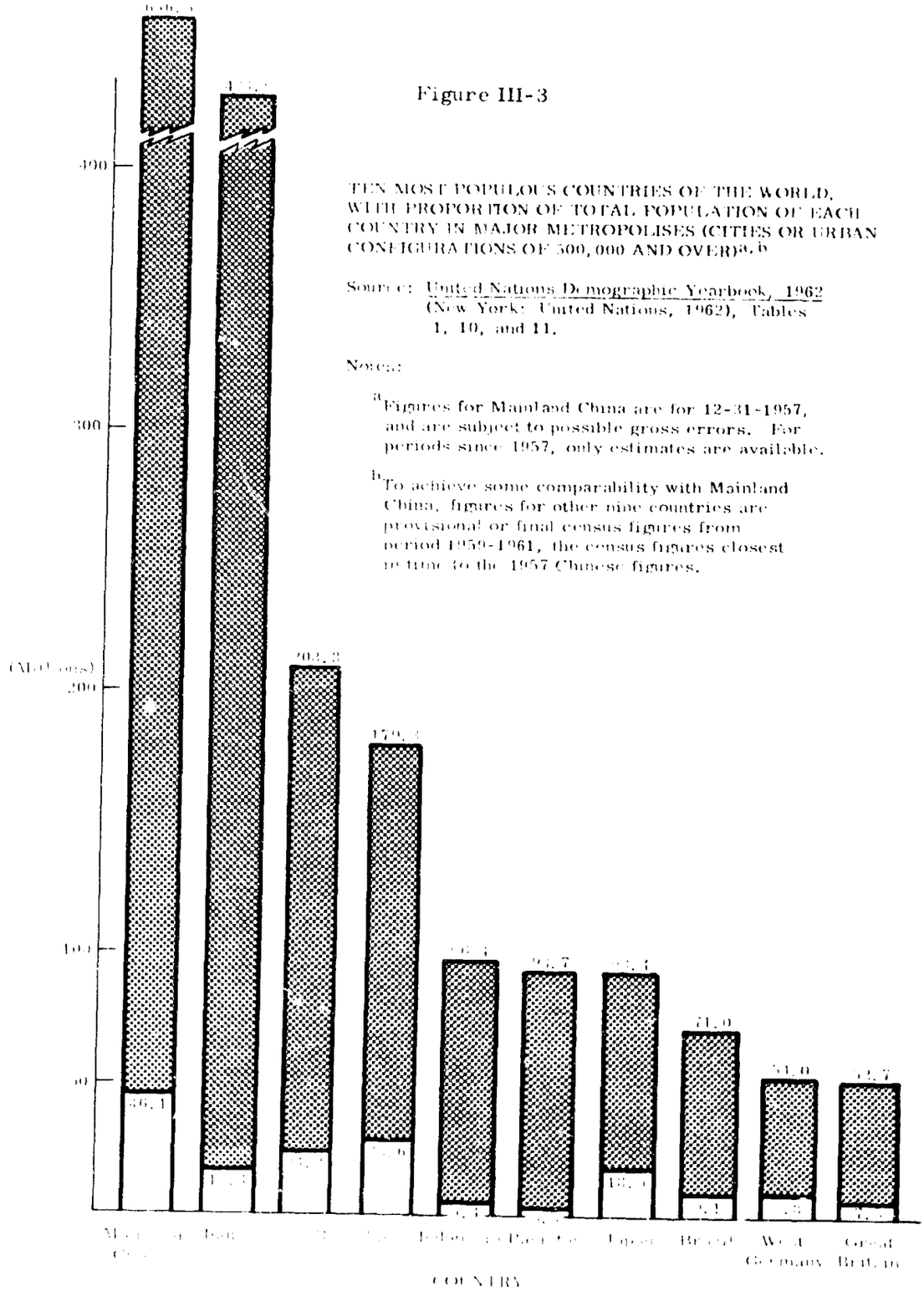


Figure III-3

TEN MOST POPULOUS COUNTRIES OF THE WORLD, WITH PROPORTION OF TOTAL POPULATION OF EACH COUNTRY IN MAJOR METROPOLISES (CITIES OR URBAN CONFIGURATIONS OF 500,000 AND OVER)[a, b]



Source: United Nations Demographic Yearbook, 1962 (New York: United Nations, 1962), Tables 1, 10, and 11.

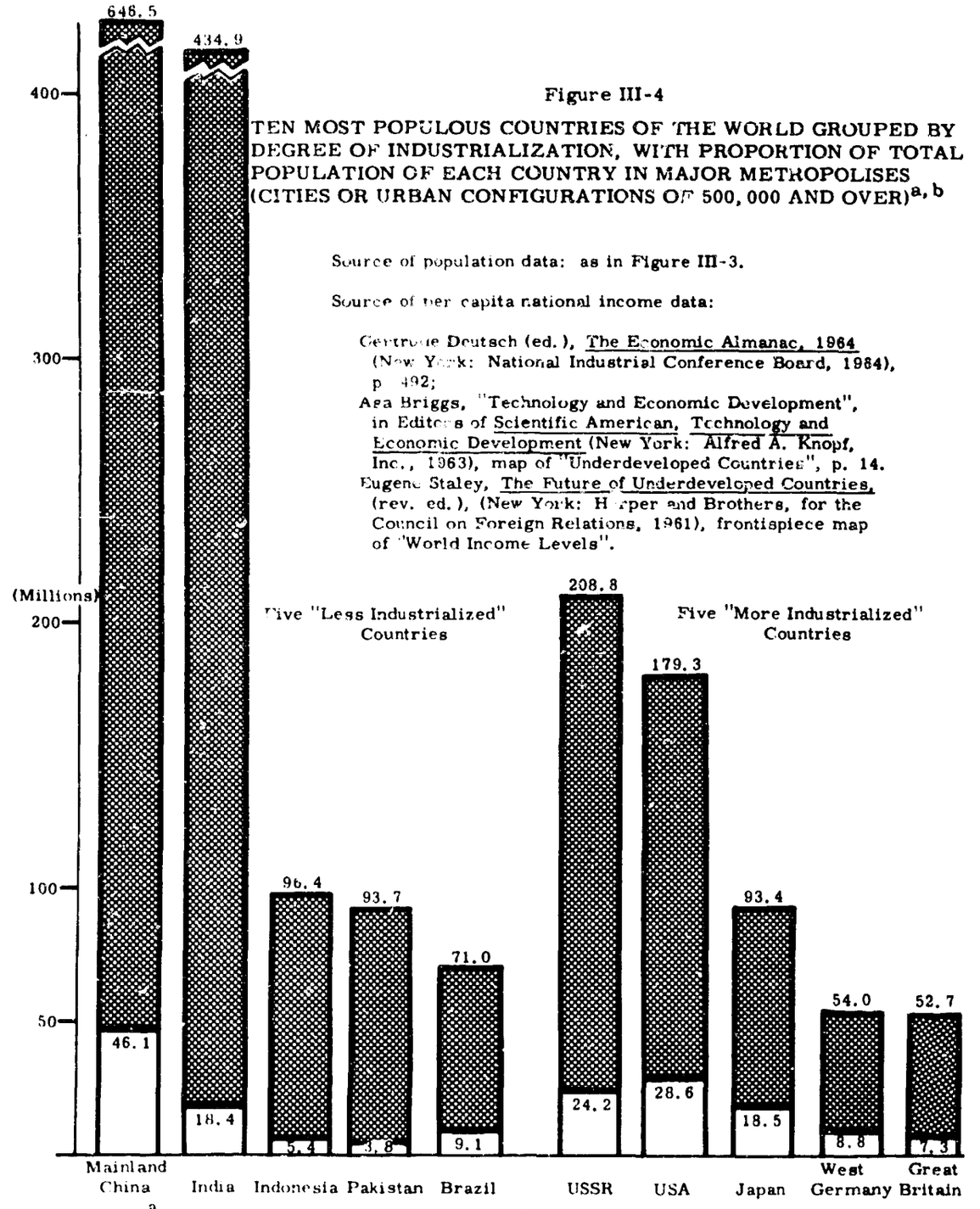
Notes:

[a] Figures for Mainland China are for 12-31-1957, and are subject to possible gross errors. For periods since 1957, only estimates are available.

[b] To achieve some comparability with Mainland China, figures for other nine countries are provisional or final census figures from period 1959-1961, the census figures closest in time to the 1957 Chinese figures.

Figure III-4

TEN MOST POPULOUS COUNTRIES OF THE WORLD GROUPED BY DEGREE OF INDUSTRIALIZATION, WITH PROPORTION OF TOTAL POPULATION OF EACH COUNTRY IN MAJOR METROPOLISES (CITIES OR URBAN CONFIGURATIONS OF 500,000 AND OVER)[a, b]



Source of population data: as in Figure III-3.

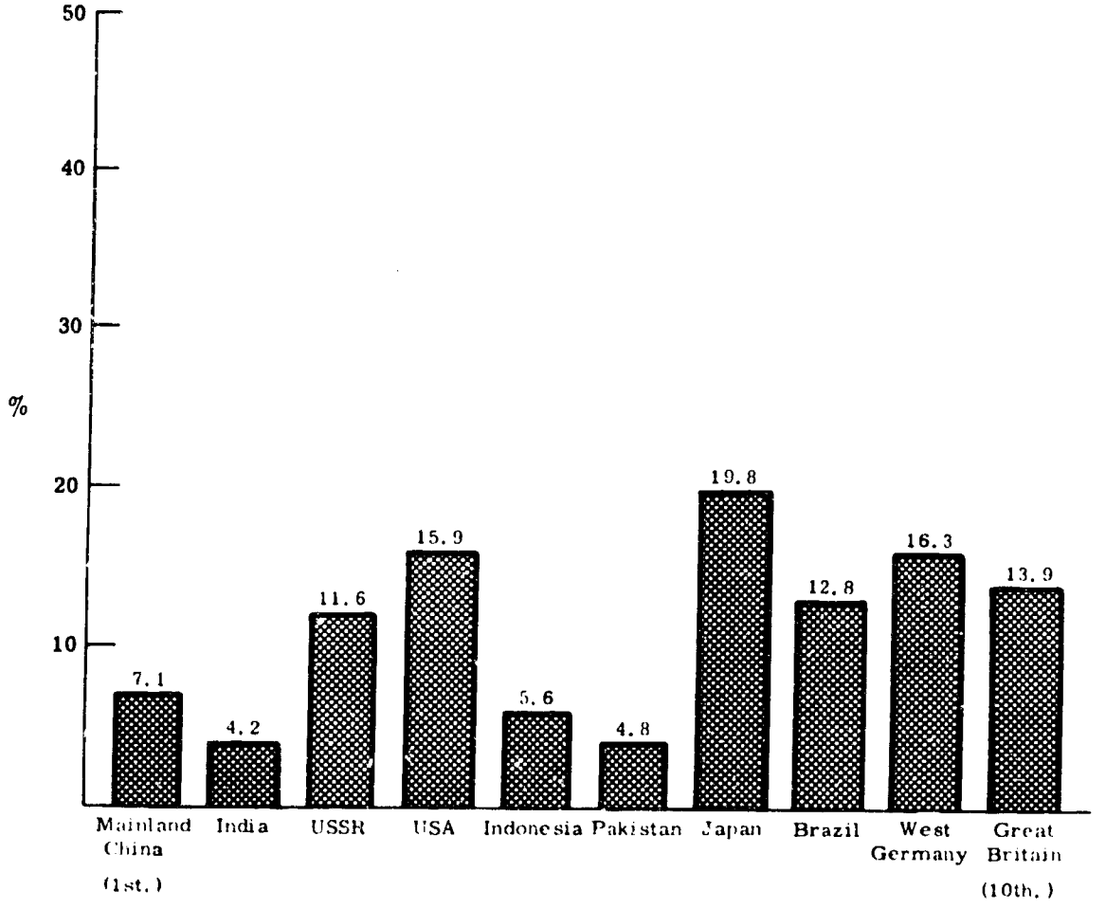
Source of per capita national income data:

Gertrude Deutsch (ed.), The Economic Almanac, 1964 (New York: National Industrial Conference Board, 1964), p. 492;
Asa Briggs, "Technology and Economic Development", in Editors of Scientific American, Technology and Economic Development (New York: Alfred A. Knopf, Inc., 1963), map of "Underdeveloped Countries", p. 14.
Eugene Staley, The Future of Underdeveloped Countries, (rev. ed.), (New York: Harper and Brothers, for the Council on Foreign Relations, 1961), frontispiece map of "World Income Levels".

[a]Per capita national income figures are for period 1957-1960.

[b]Brazil has a significantly higher per capita income figure than the other four countries in the "Less Industrialized" category, each of which has a per capita figure of "under $100". Japan, with relatively low per capita income in the "More Industrialized" category, is nevertheless a highly industrialized nation.

PERCENTAGE OF TOTAL POPULATION OF TEN MOST POPULOUS COUNTRIES OF THE WORLD RESIDING IN MAJOR METROPOLISES (500,000 AND OVER)[a]



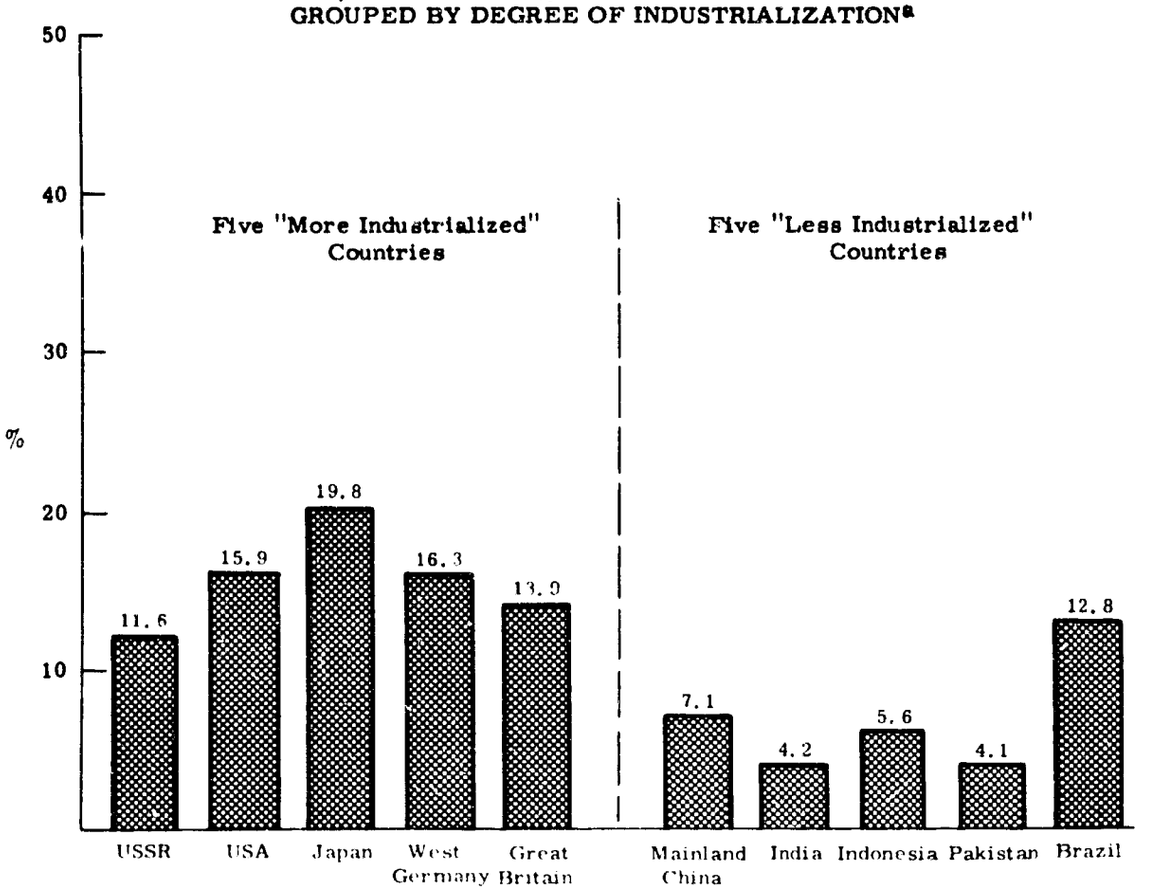
COUNTRIES, IN ORDER OF POPULATION SIZE

Source: as in Figure III-3

[a]Notes to Figure III-3 apply to this Figure.

Figure III-6

PERCENTAGE OF TOTAL POPULATION OF TEN MOST POPULOUS COUNTRIES OF THE WORLD RESIDING IN MAJOR METROPOLISES (500,000 AND OVER), WITH COUNTRIES GROUPED BY DEGREE OF INDUSTRIALIZATION[a]



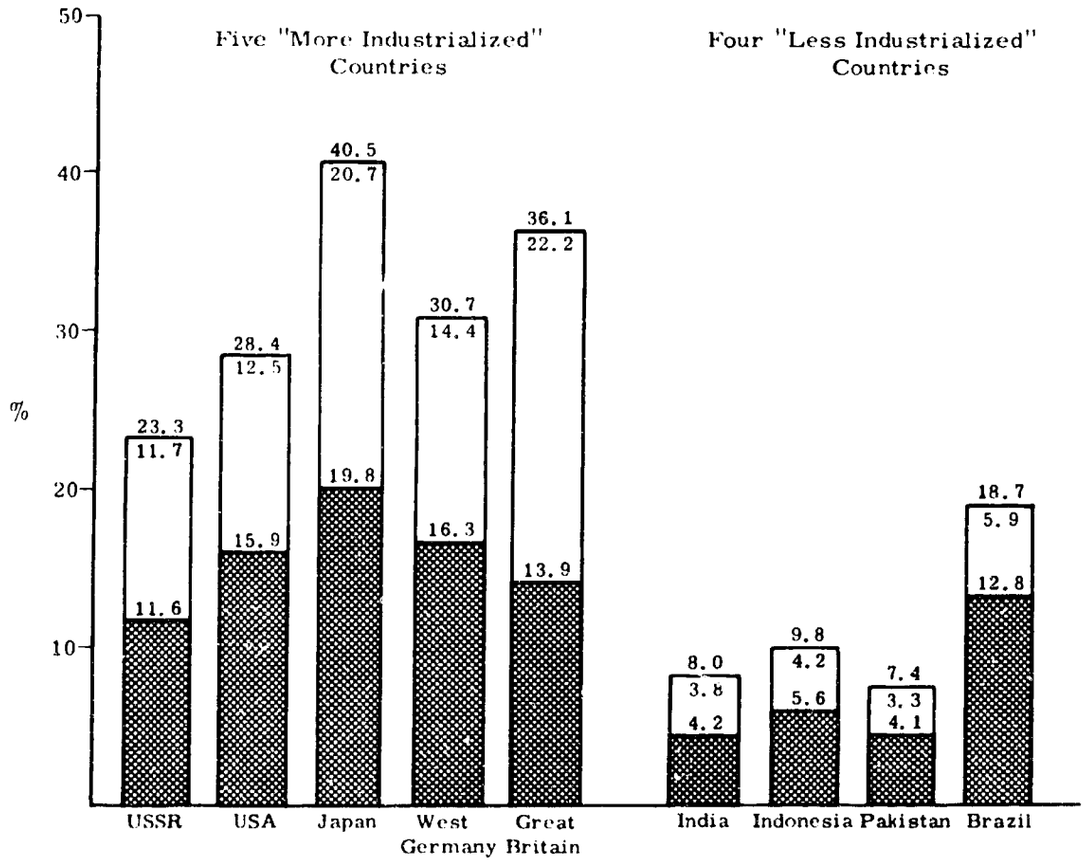
COUNTRIES, IN ORDER OF POPULATION SIZE WITHIN GROUP

Source: as in Figure III-4

[a]Notes to Figure III-4 apply to this Figure.

Figure III-7

THE PROPORTION OF TOTAL POPULATION IN MAJOR METROPOLISES (500,000 AND OVER) AND IN CITIES OR URBAN CONFIGURATIONS OF 100,000 THROUGH 499,999, FOR NINE OF THE TEN MOST POPULOUS COUNTRIES OF THE WORLD, GROUPED BY DEGREE OF INDUSTRIALIZATION[a]



Key: 500,000 and over

100,000 - 499,999

Sources: as in Figure III-4

[a]Limitations on available data require the exclusion of Mainland China from this Figure.

Figure III-8

ESTIMATED POPULATION OF THE UNITED STATES UNDER CERTAIN ASSUMPTIONS, DURING THE SIXTY-YEAR INTERVAL FOLLOWING A NUCLEAR ATTACK CAUSING 100 MILLION FATALITIES AMONG A POPULATION OF 200 MILLION

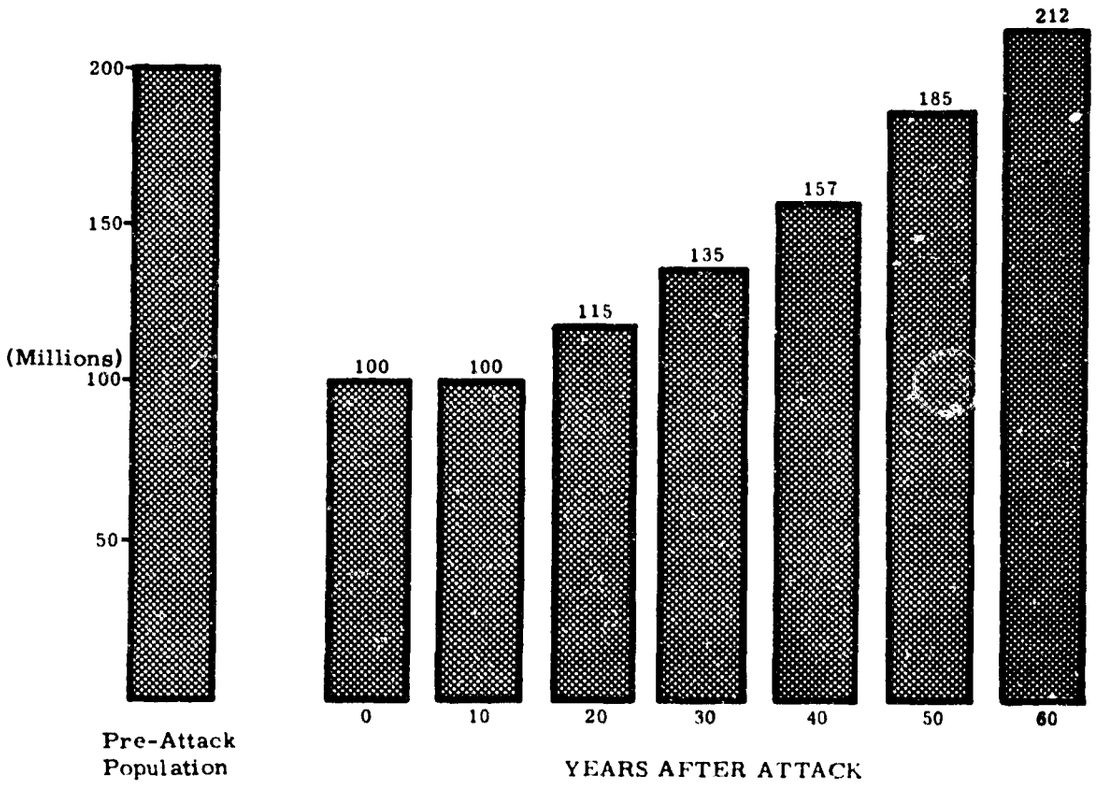


Table III-1

DISTRIBUTION OF PREATTACK POPULATION AND SURVIVORS OF HOLIFIELD AND SPADEFORK ATTACKS BY REGION, METROPOLITAN RESIDENCE, AND SIZE OF METROPOLITAN AREA FOR THE U.S., 1962
(Numbers in thousands)

	Preattack Population		Survivors of Holifield Attack[a]		Survivors of Spadefork Attack[b]	
	Total	Percent	Total	Percent	Total	Percent
U.S. Total	185,712	100.00	130,162	100.00	151,729	100.00
All SMSA's	118,284	63.69	69,535	53.42	89,699	59.00
1 million or more	61,998	33.38	36,238	27.84	48,042	31.66
Other SMSA's	56,286	30.30	33,298	25.58	41,657	27.45
Not SMSA	67,428	36.30	60,626	46.57	62,030	40.88
Northeast	46,028	24.78	26,007	19.98	37,064	24.42
All SMSA's	36,386	19.59	17,646	13.55	28,458	18.75
1 million or more	21,612	11.63	10,707	8.22	18,799	12.38
Other SMSA's	14,774	7.95	6,939	5.33	9,659	6.36
Not SMSA	9,642	5.19	8,361	6.42	8,606	5.67
North Central	53,255	28.67	42,104	32.34	43,789	28.86
All SMSA's	32,313	17.39	22,252	17.09	24,393	16.07
1 million or more	19,214	10.34	12,995	9.98	13,391	8.82
Other SMSA's	13,099	7.05	9,257	7.11	11,002	7.25
Not SMSA	20,942	11.27	19,852	15.25	19,396	12.78
South	56,654	30.50	40,243	30.91	48,116	31.71
All SMSA's	27,966	15.05	15,432	11.85	21,655	14.27
1 million or more	8,731	4.70	5,285	4.06	6,711	4.42
Other SMSA's	19,235	10.35	10,147	7.79	14,944	9.84
Not SMSA	28,688	15.44	24,811	19.06	26,561	17.43
West	29,775	16.03	21,808	16.75	22,760	15.00
All SMSA's	21,619	11.64	14,206	10.91	15,193	10.01
1 million or more	12,441	6.69	7,251	5.57	9,141	6.02
Other SMSA's	9,178	4.94	6,955	5.34	6,052	3.98
Not SMSA	8,156	4.39	7,602	5.84	7,567	4.98

Source: Heer, After Nuclear Attack: A Demographic Inquiry, Table 1.10. (original source: National Resource Evaluation Center, Office of Emergency Planning, Executive Office of the President)

[a]Holifield Attack - 1,466 megatons, at military plus 71 major population and industrial targets, with all weapons groundburst (maximum fallout)

[b]Spadefork Attack - 1,779 megatons, at primarily military targets, with slightly over half of weapons airburst

Table III-2

PREATTACK POPULATION AND PERCENT OF SURVIVORS OF HOLIFIELD AND SPADEFORK ATTACKS BY REGION, METROPOLITAN RESIDENCE AND SIZE OF METROPOLITAN AREA FOR THE U.S., 1962
(Numbers in thousands)

Area	Preattack Population	Survivors of Holifield Attack[a]		Survivors of Spadefork Attack[b]	
		Total	Percent	Total	Percent
U.S. Total	185,712	130,162	70.08	151,729	81.70
All SMSA's	118,284	69,536	58.78	89,699	75.83
1 million or more	61,998	36,238	58.45	48,042	77.48
Other SMSA's	56,286	33,298	59.15	41,657	74.00
Not SMSA	67,428	60,626	89.91	62,030	91.99
Northeast	46,028	26,007	56.50	37,064	80.52
All SMSA's	36,386	17,646	48.49	28,458	78.21
1 million or more	21,612	10,707	49.54	18,799	86.98
Other SMSA's	14,774	6,939	46.96	9,659	65.37
Not SMSA	9,642	8,361	86.71	8,606	89.25
North Central	53,255	42,104	79.06	43,789	82.22
All SMSA's	32,313	22,252	68.86	24,393	75.48
1 million or more	19,214	12,995	67.63	13,391	69.69
Other SMSA's	13,099	9,257	70.66	11,002	83.99
Not SMSA	20,942	19,882	94.79	19,396	92.61
South	56,654	40,243	71.03	48,116	84.92
All SMSA's	27,966	15,432	55.18	21,655	77.43
1 million or more	8,731	5,285	60.53	6,711	76.86
Other SMSA's	19,235	10,147	52.75	14,944	77.69
Not SMSA	28,688	24,811	86.48	26,461	92.23
West	29,775	21,808	73.24	22,760	76.43
All SMSA's	21,619	14,206	65.71	15,193	70.27
1 million or more	12,441	7,251	58.28	9,141	73.47
Other SMSA's	9,178	6,955	75.77	6,052	65.94
Not SMSA	8,156	7,602	93.20	7,567	92.77

Source: Heer, After Nuclear Attack: A Demographic Inquiry, Table 1.11. (original source: National Resource Evaluation Center, Office of Emergency Planning, Executive Office of the President)

[a]Holifield Attack - 1,466 megatons, at military plus 71 major population and industrial targets, with all weapons groundburst (maximum fallout)

[b]Spadefork Attack - 1,779 megatons, at primarily military targets, with slightly over half of weapons airburst

Table III-3

YEARS OF SCHOOL COMPLETED BY BOTH SEXES OF THE POPULATION
25 YEARS OLD AND OVER, BY REGION OF RESIDENCE
(Numbers in thousands)

	Preattack Population				
		Regions			
	United States	North-east	North-central	South	West
Total of both sexes 25 years old and over					
Number	99,280	26,424	28,705	28,813	15,338
Percentage Distribution: Total	100.0	100.0	100.0	100.0	100.0
No school years completed	2.2	2.7	1.2	3.0	2.0
Elementary, 1 to 4 years	5.9	4.0	4.2	10.6	3.6
Elementary, 5 or 6 years	7.4	1.7	6.0	10.9	4.8
Elementary, 7 years	6.4	6.0	5.9	8.4	4.0
Elementary, 8 years	17.4	19.1	21.6	13.1	14.6
High School, 1 or 2 years	14.1	15.2	14.3	13.1	13.9
High School, 3 years	5.5	5.5	5.1	5.6	5.9
High School, 4 years	24.6	24.9	26.2	20.4	2[illegible].9
College, 1 to 3 years	8.9	7.8	8.7	7.9	12.9
College, 4 years	4.7	4.9	4.3	4.4	5.3
College, 5 years or more	3.0	3.2	2.7	2.6	3.8

Source: After Nuclear Attack: A Demographic Inquiry, Table 1.30.

Table III-4

YEARS OF SCHOOL COMPLETED BY MALES OF THE POPULATION
25 YEARS OLD AND OVER, BY REGION OF RESIDENCE
(Numbers in thousands)

	Preattack Population				
		Regions			
	United States	North-east	North-central	South	West
Total males 25 years old and over					
Number	47,827	12,645	13,877	13,758	7,547
Percentage Distribution: Total	100.0	100.0	100.0	100.0	100.0
No school years completed	2.3	2.5	1.3	3.3	2.2
Elementary, 1 to 4 years	6.9	4.5	4.8	12.8	4.3
Elementary, 5 or 6 years	7.8	7.1	6.5	11.0	5.2
Elementary, 7 years	6.8	6.3	6.9	8.5	4.4
Elementary, 8 years	17.6	19.1	22.0	12.9	15.3
High School, 1 or 2 years	13.5	14.9	13.8	12.3	13.1
High School, 3 years	5.5	5.8	5.2	5.3	6.2
High School, 4 years	21.2	20.7	22.7	17.6	25.5
College, 1 to 3 years	8.7	8.1	8.0	7.8	12.5
College, 4 years	5.3	6.1	4.8	4.8	6.0
College, 5 years or more	4.4	4.9	3.9	3.8	5.4

Source: Heer, After Nuclear Attack: A Demographic Inquiry, Table 1.30.

Table III-5

YEARS OF SCHOOL COMPLETED BY MALES OF THE POPULATION 25 YEARS OLD AND OVER, BY URBAN LOCATION IN DAYTIME AND NIGHTTIME
(Numbers in thousands)

	Preattack Population Regions					
	United States - Nighttime			United States - Daytime		
	Central cities	Ring	Not in SMSA	Central cities	Ring	Not in SMSA
Total males 25 years old and over						
Number	15,944	14,556	17,327	19,334	11,671	16,772
Percentage Distribution: Total	100.0	100.0	100.0	100.0	100.0	100.0
No school years completed	2.7	1.5	2.7	2.2	2.0	2.8
Elementary, 1 to 4 years	6.2	4.3	9.9	5.2	5.2	10.1
Elementary, 5 or 6 years	7.8	5.9	9.3	6.9	6.8	9.4
Elementary, 7 years	6.1	5.6	8.4	5.6	6.2	8.5
Elementary, 8 years	16.7	15.5	20.2	15.7	17.2	20.0
High School, 1 or 2 years	14.3	14.2	12.3	14.1	14.5	12.1
High School, 3 years	5.9	6.1	4.8	6.1	5.8	4.7
High School, 4 years	20.5	23.8	19.5	21.8	22.6	19.5
College, 1 to 3 years	9.7	10.4	6.2	10.5	9.2	6.2
College, 4 years	5.4	7.2	3.7	6.5	5.7	3.7
College, 5 years or more	4.8	5.6	3.0	5.3	4.8	3.0

Source: Heer, After Nuclear Attack: A Demographic Inquiry
Table 1.30.

Table III-6

YEARS OF SCHOOL COMPLETED BY BOTH SEXES OF THE POPULATION 25 YEARS OLD AND OVER, AMONG THE PROJECTED SURVIVORS OF TWO HYPOTHETICAL ATTACKS
(Numbers in thousands)

	Survivors of Holifield Attack[a]		Survivors of Spadefork Attack[b]	
	United States		United States	
	Night	Day	Night	Day
Total of both sexes 25 years old and over				
Number	69,054	67,708	80,893	81,135
Percentage Distribution: Total	100.0	100.0	100.0	100.0
No school years completed	2.1	2.1	2.2	2.2
Elementary, 1 to 4 years	6.1	6.2	6.1	6.1
Elementary, 5 or 6 years	7.4	7.5	7.5	7.5
Elementary, 7 years	6.5	6.5	6.5	6.5
Elementary, 8 years	17.7	17.8	17.5	17.6
High School, 1 or 2 years	13.9	13.9	14.0	14.0
High School, 3 years	55.4	5.3	5.4	55.4
High School, 4 years	24.7	24.6	24.5	24.5
College, 1 to 3 years	8.8	8.7	8.7	8.7
College, 4 years	4.6	4.5	4.6	4.6
College, 5 years or more	2.9	2.8	2.9	2.9

Source: Heer, After Nuclear Attack: A Demographic Inquiry, Table 1.30.

[a] Holifield Attack - 1,466 megatons, at military plus 71 major population and industrial targets, with all weapons groundburst (maximum fallout)

[b] Spadefork Attack - 1,779 megatons, at primarily military targets, with slightly over half of weapons airburst.

Table III-7

YEARS OF SCHOOL COMPLETED BY MALES OF THE POPULATION 25 YEARS OLD AND OVER, AMONG THE PROJECTED SURVIVORS OF TWO HYPOTHETICAL ATTACKS
(Numbers in thousands)

	Survivors of Holifield Attack[a]		Survivors of Spadefork Attack[b]	
	United States		United States	
	Night	Day	Night	Day
Total of males 25 years old and over				
Number	33,402	32,380	39,024	38,450
Percentage Distribution: Total	100.0	100.0	100.0	100.0
No school years completed	2.3	2.3	2.3	2.4
Elementary, 1 to 4 years	7.2	7.4	7.1	7.2
Elementary, 5 or 6 years	7.8	7.9	7.8	7.9
Elementary, 7 years	7.0	7.1	6.9	7.0
Elementary, 8 years	18.0	18.2	17.7	17.8
High School, 1 or 2 years	13.3	13.3	13.4	13.4
High School, 3 years	5.4	5.4	5.5	5.5
High School, 4 years	21.3	21.1	21.1	21.0
College, 1 to 3 years	8.4	8.2	8.5	8.4
College, 4 years	5.2	5.0	5.3	5.2
College, 5 years	4.2	4.1	4.3	4.2

Source: Heer, After Nuclear Attack: A Demographic Inquiry, Table 1.30.

[a]Holifield Attack - 1,466 megatons, at military plus 71 major population and industrial targets, with all weapons groundburst (maximum fallout)

[b]Spadefork Attack - 1,779 megatons, at primarily military targets, with slightly over half of weapons airburst

Table III-8

MAJOR OCCUPATION GROUP OF EMPLOYED PERSONS OF BOTH SEXES, BY REGION OF RESIDENCE
(Numbers in thousands)

	Preattack Population				
		Regions			
		Northeast	North-central	South	West
Total of both sexes employed					
Number	64,442	16,987	18,866	18,417	10,172
Percentage Distribution: Total	100.0	100.0	100.0	100.0	100.0
Professional, technical, and kindred workers	11.2	12.0	10.6	10.0	13.0
Farmers and farm managers	8.8	0.9	6.1	5.0	2.6
Managers, officials, and proprietors, except farm	8.4	8.2	8.1	8.4	9.5
Clerical and kindred workers	14.6	16.7	14.2	12.6	15.5
Sales workers	7.1	7.2	7.3	6.6	7.2
Craftsmen, foremen, and kindred workers	13.4	13.4	13.9	12.3	14.6
Operatives and kindred workers	18.4	21.0	18.4	18.2	14.6
Private household workers	2.6	1.9	2.0	4.3	2.0
Service workers, except private household	8.5	8.3	8.4	8.5	8.9
Farm laborers and foremen	2.2	0.7	1.9	3.4	3.0
Laborers, except farm and mine	4.8	4.1	4.3	5.9	4.8
Occupation not reported	5.0	5.6	4.9	4.9	4.2

Source: Heer, After Nuclear Attack: A Demographic Inquiry, Table 1.33.

Table III-9

MAJOR OCCUPATION GROUP OF EMPLOYED MALES, BY REGION OF RESIDENCE
(Numbers in thousands)

	Preattack Population				
		Regions			
	United States	North-east	North-central	South	West
Total males employed					
Number	43,396	11,308	12,946	12,260	6,882
Percentage Distribution: Total	100.0	100.0	100.0	100.0	100.0
Professional, technical, and kindred workers	10.3	11.9	9.6	8.8	12.0
Farmers and farm managers	5.4	1.2	8.5	7.0	3.7
Managers, officials, and proprietors, except farm	10.7	10.9	10.0	10.8	11.5
Clerical and kindred workers	7.2	8.8	7.1	6.2	6.6
Sales workers	6.9	7.5	6.7	6.4	7.0
Craftsmen, foremen, and kindred workers	19.3	19.4	19.6	18.0	21.1
Operatives and kindred workers	19.9	21.1	20.6	19.8	16.7
Private household workers	0.1	0.1	0.1	0.2	0.1
Service workers, except private household	6.0	6.9	5.2	5.8	6.5
Farm laborers and foremen	2.7	1.0	2.2	4.1	4.0
Laborers, except farm and mine	6.8	6.0	6.0	8.5	6.9
Occupation not reported	4.7	5.4	4.4	4.6	4.0

Source: Heer, After Nuclear Attack: A Demographic Inquiry, Table 1.33.

Table III-10

MAJOR OCCUPATION GROUP OF EMPLOYED MALES,
BY URBAN LOCATION IN DAYTIME AND NIGHTTIME
(Numbers in thousands)

	Preattack Population United States - Nighttime			Preattack Population United States - Daytime		
	Central cities	Ring	Not in SMSA	Central cities	Ring	Not in SMSA
Total males employed						
Number	14,395	13,656	15,345	18,154	10,557	14,685
Percentage Distribution: Total	100.0	100.0	100.0	100.0	100.0	100.0
Professional, technical, and kindred workers	11.1	13.0	7.3	12.0	11.6	7.3
Farmers and farm managers	0.2	1.9	13.4	0.1	2.6	14.0
Managers, officials and proprietors, except farm	10.8	11.7	9.7	11.9	9.7	9.9
Clerical and kindred workers	9.6	7.6	4.5	9.9	6.4	4.3
Sales workers	7.7	7.9	5.2	8.4	6.2	5.5
Craftsmen, foremen, and kindred workers	18.5	22.1	17.7	19.1	22.6	17.3
Operatives and kindred workers	20.3	19.1	20.2	19.4	21.0	19.6
Private household workers	0.1	0.1	0.1	0.1	0.1	0.2
Service workers, except private household	8.2	5.1	4.7	7.1	5.8	4.7
Farm laborers and foremen	0.2	1.5	6.1	0.2	2.0	6.3
Laborers, except farm and mine	6.9	5.9	7.6	6.2	7.2	7.4
Occupation not reported	6.5	4.1	3.5	5.6	4.7	3.5

Source: Heer, After Nuclear Attack: A Demographic Inquiry, Table 1.33

Table III-11

MAJOR OCCUPATION GROUP OF EMPLOYED PERSONS OF BOTH SEXES, AMONG THE PROJECTED SURVIVORS OF TWO HYPOTHETICAL ATTACKS
(Numbers in thousands)

	Survivors of Holifield Attack[a]		Survivors of Spadefork Attack[b]	
	United States		United States	
	Night	Day	Night	Day
Total of both sexes employed				
Number	44,497	42,959	52,289	51,418
Percentage Distribution: Total	100.0	100.0	100.0	100.0
Professional, technical, and kindred workers	11.0	10.9	11.1	11.0
Farmers and farm managers	4.9	5.1	4.3	4.4
Managers, officials, and proprietors, except farm	8.4	8.3	8.4	8.4
Clerical and kindred workers	13.6	13.3	14.2	14.0
Sales workers	7.0	6.9	7.0	7.0
Craftsmen, foremen, and kindred workers	13.6	13.5	13.5	13.4
Operatives and kindred workers	18.4	18.4	18.5	18.5
Private household workers	2.6	2.7	2.6	2.7
Service workers, except private household	8.3	8.4	8.4	8.4
Farm laborers and foremen	2.7	2.8	2.4	2.5
Laborers, except farm and mine	4.9	4.9	4.8	4.8
Occupation not reported	4.6	4.7	4.8	4.9

Source: Heer, After Nuclear Attack: A Demographic Inquiry, Table 1.33.

[a]Holifield Attack - 1,466 megatons, at military plus 71 major population and industrial targets, with all weapons groundburst (maximum fallout)

[b]Spadefork Attack - 1,779 megatons, at primarily military targets, with slightly over half of weapons airburst

Table III-12

MAJOR OCCUPATION GROUP OF EMPLOYED MALES, AMONG THE PROJECTED SURVIVORS OF TWO HYPOTHETICAL ATTACKS
(Numbers in thousands)

	Survivors of Holifield Attack[a]		Survivors of Spadefork Attack[b]	
	United States		United States	
	Night	Day	Night	Day
Total males employed				
Number	30,316	29,194	35,390	34,757
Percentage Distribution: Total	100.0	100.0	100.0	100.0
Professional, technical, and kindred workers	10.0	9.8	10.1	10.1
Farmers and farm managers	6.9	7.2	6.0	6.2
Managers, officials, and proprietors, except farm	10.6	10.4	10.6	10.6
Clerical and kindred workers	6.6	6.4	6.9	6.9
Sales workers	6.6	6.5	6.7	6.7
Craftsmen, foremen, and kindred workers	19.4	19.3	19.3	19.2
Operatives and kindred workers	19.8	19.9	19.9	19.9
Private household workers	0.1	0.1	0.1	0.1
Service workers, except private household	5.5	5.6	5.8	5.9
Farm laborers and foremen	3.3	3.4	3.0	3.0
Laborers, except farm and mine	6.9	7.0	6.9	6.9
Occupation not reported	4.3	4.4	4.5	4.6

Source: Heer, After Nuclear Attack: A Demographic Inquiry, Table 1.33.

[a]Holifield Attack - 1,466 megatons, at military plus 71 major population and industrial targets, with all weapons groundburst (maximum fallout)

[b]Spadefork Attack - 1,779 megatons, at primarily military targets, with slightly over half of weapons airburst

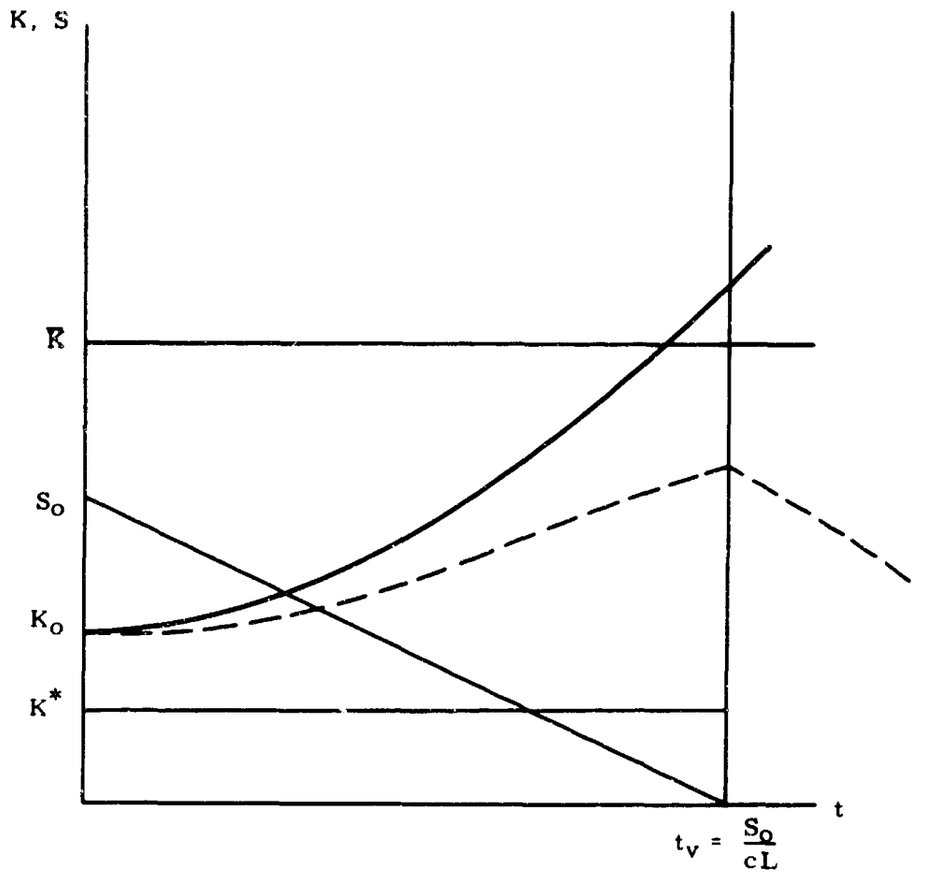


Figure IV-1

SUCCESS AND FAILURE IN ACHIEVING VIABILITY

K	=	Capital
S	=	Inventory of food
K^*	=	Capital required for temporary recovery
L	=	Labor
$\bar{K}$	=	Capital required for viability
S_o	=	Food inventory at end of survival period
K_o	=	Capital at end of survival period
t_v	=	Time of depletion of food inventory
S_o/cL	=	Ratio of food stock to food requirements per period

TABLE IV-1

CONCENTRATION OF RESOURCES: AREAS RANKED BY SURVIVAL INDUSTRY

Number of areas*	Resource (%)					
	Population	Recovery and military support industry	Survival industry	Petroleum refining	Electric power	Ports
10	10.8	20.5	19.9	1.8	7.1	27.4
20	15.3	27.5	29.2	2.4	9.9	37.5
30	17.7	30.5	35.4	10.7	12.9	49.1
40	19.9	34.8	40.1	14.6	14.7	52.1
50	21.2	36.8	44.0	22.2	16.8	55.8
60	23.3	41.4	47.6	22.8	17.7	56.8
70	25.1	44.5	50.6	25.3	19.7	57.9
80	27.9	46.8	53.2	25.4	20.4	57.9
90	28.8	48.5	55.4	25.4	21.3	57.9
100	30.2	50.8	57.4	25.5	21.7	65.0
150	35.7	57.8	65.4	39.5	26.6	66.0
200	41.1	64.9	70.6	43.0	29.8	73.6

*Each target area is a square 20 km on a side, and represents approximately the area of destruction from a 10MT weapon.

(Source: Economic Viability ..., Table 16, p. 211; see Footnote 68 above).

TABLE VI-1

TYPES OF COMPARATIVE ANALYSIS,
WITH ILLUSTRATIONS FOR THE STUDY OF POST-ATTACK SOCIETY

	Same Social Unit		Different Social Unit	
	Static	Dynamic	Static	Dynamic
Aggregated Population Characteristics	Comparing occupational structure of U. S. population five years after attack with occupational structure immediately before attack.	Predicting the path of occupational composition of U. S. population, by three-month periods, during the five-year period after attack.	Comparing relation between U. S. population in 1960 and 1980 (hypothetical attack, 1965) with relations between Soviet population in 1939 and 1960.	Predicting path of U. S. population recovery in post-attack society on the basis of Soviet and German population rates after World War I and World War II.
Behavioral Precipitates	Comparing anticipated crime rates six months after attack with actual U. S. crime rates in 1960.	Predicting the course--rise and fall--of looting behavior during the two-year period following attack.	Estimating barter and black-market behavior in post-attack society on basis of increased incidence in Germany in late World War II.	Predicting developmental course of scapegoating over time in fallout shelters on basis of behavior in prisoner of war and concentration camps.
Social Structure	Comparing relative strength of central vs. local government in post-attack society five years after attack with central-local-political relations in World War II.	Predicting an initial period of total mobilization by central government in early post-attack society followed by a number of stages of increasing institutional autonomy from central government.	Comparing spontaneous leadership structure in anticipated shelter arrangements by comparing social organization of British bomb shelters in World War II.	Predicting the evolution of the stratification system of post-attack society by comparing it with changes in stratification in post-war and post-revolutionary settings, e. g., French and Russian revolutions, colonial revolutions.
Cultural Patterns	Comparing level of extremist challenges to political legitimacy in pre-attack society with anticipated challenges in post-attack society.	Predicting rise of altruistic, mutual-aid values in immediate post-attack period, followed by step-by-step attrition of these values.	Estimating continued loyalty to President in post-attack society by comparing Japanese citizens' attitudes toward Emperor and German soldier's attitudes toward Hitler at end of World War II.	Predicting course of growth and institutionalization of new religious beliefs in post-attack society by comparison with similar changes following Black Death, potato famine, etc.

Figure VII-2

RELATIONS AMONG DETERMINANTS IN A SEQUENTIAL ORDERING OF POST-ATTACK BEHAVIORAL DOMAINS: CONSTRAINTS ON A SHELTER SYSTEM